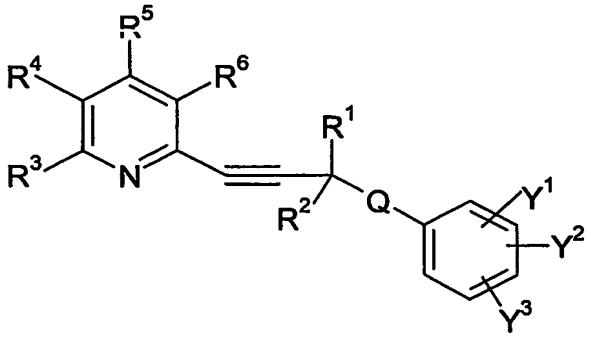
Claims

1. A compound of formula I



(I)

wherein

R^1 is selected from hydrogen, C_1-C_4 alkyl, C_3-C_6 cycloalkyl, aryl and heteroaryl, wherein the aryl or heteroaryl may be substituted by C_1-C_4 alkyl;

R^2 is selected from hydrogen and C_1-C_4 alkyl;

R^3 is selected from hydrogen, C_1-C_4 alkyl, F, CF_3, CHF_2 and CH_2F;

R^4 is selected from hydrogen, F, CF_3, CHF_2, CH_2F and CH_3;

R^5 is selected from hydrogen and F;

R^5 is selected from hydrogen and F;

Q is S, NH or NCH_3, optionally substituted by C_1-C_4 alkyl;

Y^1 is selected from hydrogen; halogen; nitrile; C_1-C_4 alkoxy; C_1-C_4 alkyl wherein one or more of the hydrogen atoms of the alkyl group may be substituted for a fluorine atom; benzyloxy; nitro in the meta or para position; and C_1-C_4 alkyl ester;

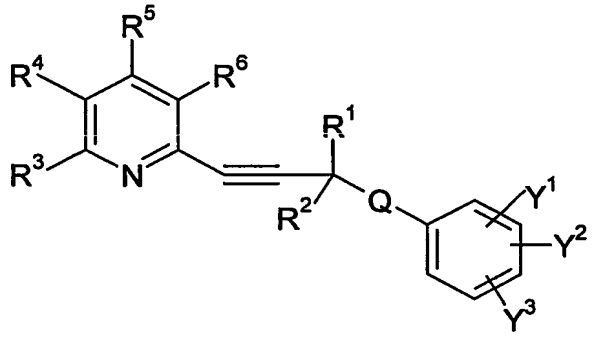
Y^2 is selected from hydrogen; halogen; nitrile; C_1-C_4 alkoxy; C_1-C_4 alkyl wherein one or more of the hydrogen atoms of the alkyl group may be substituted for a fluorine atom; and C_1-C_4 alkyl ester;

Y^3 is selected from hydrogen; halogen; nitrile; C_1-C_4 alkoxy; C_1-C_4 alkyl wherein one or more of the hydrogen atoms of the alkyl group may be substituted for a fluorine atom; and C_1-C_4 alkyl ester; or

Y^1 and Y^2 may form an aromatic or non-aromatic ring, optionally substituted by halogen, nitrile, C_1-C_4 alkoxy, C_1-C_4 alkyl wherein one or more of the hydrogen atoms of the alkyl group may be substituted for a fluorine atom, benzyloxy or C_1-C_4 alkyl ester;

as well as pharmaceutically acceptable salts, hydrates, isoforms and/or optical isomers thereof.

2. A compound of formula I



(I)

wherein

R^1 is selected from hydrogen, C_1-C_4 alkyl, C_3-C_6 cycloalkyl, aryl and heteroaryl, wherein the aryl or heteroaryl may be substituted by C_1-C_4 alkyl;

R^2 is selected from hydrogen and C_1-C_4 alkyl;

R^3 is selected from hydrogen, C_1-C_4 alkyl, F, CF_3, CHF_2 and CH_2F;

R^4 is selected from hydrogen, F, CF_3, CHF_2, CH_2F and CH_3;

R^5 is selected from hydrogen and F;

R^5 is selected from hydrogen and F;

Q is S, NH or NCH_3, optionally substituted by C_1-C_4 alkyl;

Y^1 is selected from hydrogen, halogen, nitrile, C_1-C_4 alkoxy, and C_1-C_4 alkyl;

Y^2 is selected from hydrogen, halogen, nitrile, C_1-C_4 alkoxy, and C_1-C_4 alkyl;

Y^3 is selected from hydrogen, halogen, nitrile, C_1-C_4 alkoxy, and C_1-C_4 alkyl;

as well as pharmaceutically acceptable salts, hydrates, isoforms and/or optical isomers thereof.

3. A compound according to formula I of claim 1 or 2, wherein

R^1 is hydrogen or C_1-C_3 alkyl;

R^2 is hydrogen;

R^3 is selected from hydrogen and methyl;

R^4 is hydrogen;

R^5 is hydrogen;

R^6 is hydrogen;

Q is S, NH or NCH_3, optionally substituted by C_1-C_4 alkyl;

Y^1 is selected from hydrogen, chloro, C_1-C_2 alkoxy, and C_1-C_2 alkyl; and

Y^2 is selected from hydrogen, chloro, C_1-C_2 alkoxy, and C_1-C_2 alkyl; and

Y^3 is hydrogen.

4. A compound according to claim 1 selected from *N*-[3-(6-methylpyridin-2-yl)prop-2-yn-1-yl]aniline;

N-benzyl-3-(6-methylpyridin-2-yl)prop-2-yn-1-amine;

N-methyl-*N*-[3-(6-methylpyridin-2-yl)prop-2-yn-1-yl]aniline;

(3-methylphenyl)[3-(6-methylpyridin-2-yl)prop-2-yn-1-yl]amine;

(3-methoxyphenyl)[3-(6-methylpyridin-2-yl)prop-2-yn-1-yl]amine;

(3-chlorophenyl)[3-(6-methylpyridin-2-yl)prop-2-yn-1-yl]amine;

[(3-phenylprop-2-yn-1-yl)thio]benzene;

1-methoxy-3-[(3-phenylprop-2-yn-1-yl)thio]benzene;

2-{3-[(3-chlorophenyl)thio]but-1-yn-1-yl}-6-methylpyridine;

2-methyl-6-[3-(phenylthio)prop-1-yn-1-yl]pyridine;

2-{3-[(3-chlorophenyl)thio]prop-1-yn-1-yl}-6-methylpyridine;

2-{3-[(3-methoxyphenyl)thio]prop-1-yn-1-yl}-6-methylpyridine;

2-methyl-6-{3-[(3-methylphenyl)thio]prop-1-yn-1-yl}pyridine;

(*RS*)-2-{3-[(3-methoxyphenyl)thio]but-1-yn-1-yl}-6-methylpyridine;

2-[3-(3-chlorophenyl)-4-methylpent-1-yn-1-yl]-6-methylpyridine;
2-{3-[(3,4-dimethylphenyl)thio]prop-1-yn-1-yl}-6-methylpyridine;
2-{3-[(3,5-dimethylphenyl)thio]prop-1-yn-1-yl}-6-methylpyridine;
2-{3-[(3-ethoxyphenyl)thio]prop-1-yn-1-yl}-6-methylpyridine;
2-{3-[(4-*tert*-butylphenyl)thio]prop-1-yn-1-yl}-6-methylpyridine; and
2-{3-[(3-chlorophenyl)thio]pent-1-yn-1-yl}-6-methylpyridine.

5. A compound according to any one of claims 1-4 for use in therapy.

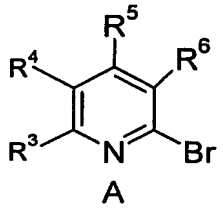
6. A compound according to claim 5, wherein the therapy is treatment or prevention of gastroesophageal reflux disease.

7. Use of a compound of formula I of claim 1 or 2, or a pharmaceutically acceptable salt or an optical isomer thereof, for the manufacture of a medicament for the inhibition of transient lower esophageal sphincter relaxations.

8. Use of a compound of formula I of claim 1 or 2, or a pharmaceutically acceptable salt or an optical isomer thereof, for the manufacture of a medicament for treatment or prevention of gastroesophageal reflux disease.

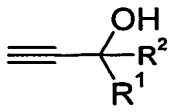
9. A pharmaceutical composition comprising a compound of formula I of claim 1 or 2 as an active ingredient, together with a pharmacologically and pharmaceutically acceptable carrier.

10. A process for the preparation of a compound of formula I, whereby a coupling reaction of the aryl bromide A



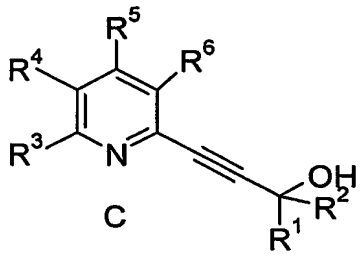
A

and the alcohol B



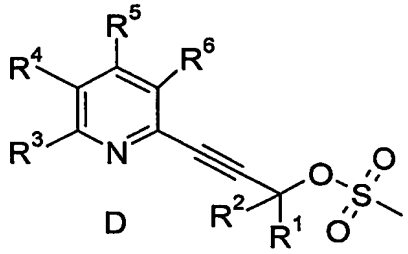
B

is performed in the presence of a base such as triethyl amine, giving the alcohol C



C

which is then converted into the mesylate D



D

and reacted with primary or secondary amines or a thiol nucleophile, and wherein

R^1 is selected from hydrogen, C_1-C_4 alkyl, C_3-C_6 cycloalkyl, aryl and heteroaryl, wherein the aryl or heteroaryl may be substituted by C_1-C_4 alkyl;

R^2 is selected from hydrogen and C_1-C_4 alkyl;

R^3 is selected from hydrogen, C_1-C_4 alkyl, F, CF_3, CHF_2 and CH_2F;

R^4 is selected from hydrogen, F, CF_3, CHF_2, CH_2F and CH_3;

R^5 is selected from hydrogen and F;

R^6 is selected from hydrogen and F.

11. A compound selected from (*RS*)-4-(6-methylpyridin-2-yl)but-3-yn-2-ol; 4-methyl-1-(6-methylpyridin-2-yl)pent-1-yn-3-ol; Methanesulfonic acid 3-pyridin-2-yl-prop-2-ynyl ester; and 1-(6-Methyl-pyridin-2-yl)-pent-1-yn-3-ol.

12. A method for the inhibition of transient lower esophageal sphincter relaxations whereby an effective amount of a compound of formula I of claim 1 or 2 is administered to a subject in need of such inhibition.

13. A method for the treatment or prevention of gastroesophageal reflux disease, whereby an effective amount of a compound of formula I of claim 1 or 2 is administered to a subject in need of such treatment or prevention.